

X. *Notes on the British Species of Heterocerus.* By GEO.  
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THE following Notes are communicated to the Society with the view of drawing attention to a group which appears to have been much neglected. In the latest published list of the British species only three are enumerated,\* whilst in the "*Naturgeschichte der Insecten Deutschlands*," by Erichson, no less than twelve species are described as inhabiting Germany; several of these (besides the species here enumerated) have a wide range, and will therefore probably, in part at least, be found in England. In pointing out that there are six well-defined English species, besides one which is doubtful, the writer cannot but feel that his list is far from perfect, since the whole of these exist in his own Collection, and he cannot lay claim to any diligence in collecting material for the study of the group.

Are the males of the species of *Heterocerus* usually very scarce? The author has found such to be the case with regard to his own and some other specimens submitted to him for examination. Out of about fifty specimens of *Het. lævigatus*, he only found one individual presenting the male character; in *H. obsolctus* he finds about one male to ten females; in the *H. fossor*, of this list, he finds no male among the ten specimens which he has examined, and the same remark applies to the *H. flexuosus*, of which he possesses upwards of twenty specimens. Possibly the so-called male characters only become evident in well-developed individuals.

*Heterocerus lævigatus*, Panzer, Faun. Ins. Germ. xxiii. 13 (1796—1809).

—————, Steph. Illustr. ii. 101, 4 (1829); Manual, p. 80, 621 (1839).

—————, Kiesenw. Germ. Zeitschr. iv. 217, 15, pl. 3, fig. 10.

\* Others have no doubt been enumerated, but, as their distinctive characters have never been clearly pointed out, they have not been recognized.

*Heterocerus lævigatus*, Erichs. Ins. Deutschl. iii. 518, 8.

———— *Marshami*, Steph. Illustr. ii. 101, 3; Man. 80, 620 a.

———— *pusillus*, Waltl. Isis, 1839, 221, 23.

As this is the commonest London species, and has the pale markings very complete, I shall describe the insect in some detail, and compare the other British species with it. Oblong, black, densely clothed with a fine ash-coloured pubescence, almost without any admixture of long hairs excepting on the sides of the thorax, where they are pretty plentiful; jaws pitchy, or often ferruginous. Thorax transverse, rather narrower than the elytra; contracted in front; the sides moderately rounded; the hinder margin obliquely truncated on either side; the posterior angles obtuse, and very narrowly margined—that is to say, they have a delicately impressed line immediately within the outer margin, and which follows the outline of the thorax; this may be traced along the whole of the posterior margin, and at the posterior angles, but extends very little way up the sides.\* Elytra nearly four times the length of the thorax, with the humeral angle somewhat rounded, and more prominent than the broadest part of the thorax; the sides at first straight and parallel, but at a short distance below the shoulder they are slightly dilated and rounded; the apex is obtusely rounded. Anterior tibiæ dilated, rounded externally at the apex; the outer margin denticulate, and furnished with spines; these are usually about seven in number on the outer side of the tibiæ, and three at the apex; the longest are near the apex, and their length is very nearly equal to the width of the tibia at the same part; sometimes eleven of these spines may be counted. With regard to the colouring, there are two varieties, one in which the markings are very pale testaceous, the sides of the thorax pale testaceous, but interrupted in the middle, and the sides of the abdomen and the legs likewise pale. Specimens presenting these conditions are common in collections, and are perhaps somewhat immature. In others the markings are rufo-testaceous, the sides of the thorax almost immaculate as well as those of the abdomen, and the legs are more or less pitchy, especially the tibiæ.

[In the common type of the markings on the elytra, the *Heteroceri* have a post-humeral band, which, entering the elytra from the outer margin, run inwards a short distance, and then is suddenly recurved, and running upwards encloses a small dark area

\* This impressed line is seen in all the *Heteroceri* here noticed, excepting "*H. fossor*?" and *H. flexuosus*.

at the humerus: a second band springs from the side of the elytra in the same manner, but considerably below the middle, and is recurved so as to join what I will call the second discoidal spot, and which is placed but little below the middle of the elytron; the first discoidal spot being placed between this and the base of the elytra; besides these, there is a spot at the base of the elytron near the scutellum, and another which, from its position, may be termed the sub-apical spot. Moreover, the outer margin of the elytron is also frequently pale.]

In *H. lævigatus* the margin of the elytra is entirely pale; the two bands run inwards but a short distance from the margin, and then are abruptly truncated; the sub-humeral band descends lower than usual, and hence is separated by a narrow space only from the second band; its inner ascending branch is commonly (but not always) isolated. The basal spot sends down a branch to join the first discoidal spot; the second discoidal is free, and divided longitudinally by a dark line, as is also the sub-apical spot.

[The mandibles in the *Heteroceri* are obliquely cleft, or notched, on the outer margin, about midway between the base and apex of the jaw, and a salient point is thus produced at that part. Now in the males the margin between the notch and the base of the tooth is frequently recurved, and produced into a vertical lobe.]

In *H. marginatus*, ♂, the lobe referred to is small and pointed; the clypeus is provided in front with two minute acutely-pointed processes, and these are rather widely separated; and the thorax is as broad as the elytra.

Four, out of five specimens which stand as *H. lævigatus* in Stephens' Collection, belong to the present species; the fifth specimen is *H. marginatus*.

The *H. Marshami*, of Stephens, is represented in the same Collection by two specimens, both of which belong to the *H. lævigatus*.

Common on the muddy margins of ponds and ditches in the neighbourhood of London, and I believe widely distributed in England.

*Heterocerus obsoletus*, Curtis, British Entom. v. 224.

—————, Steph. Illustr. ii. 102, 5; Man. 80, 622.

—————, Kiesenw. Germ. Zeitschr. iv. 215, 14, pl. 3,  
fig. 9.

—————, Erichs. Ins. Deutschl. iii. 545, 4.

————— *marginatus*, Marsh. Ent. Brit. p. 400, 1.

Much larger than *H. lævigatus* (being usually  $2\frac{1}{2}$  lines in length), relatively broader, and more depressed; the colouring (including that of the legs and the pubescence) darker. The markings usually are by no means distinct, and are broken up into small spots. The basal spot on the elytra is generally wanting, and seldom distinct; the discoidal and sub-apical spots are divided; the bands do not exist as such, being only represented by spots on the sides of the elytra, which have the margins dark. The thorax is scarcely as broad as the elytra, contracted in front, has the posterior angles rounded and margined, and is commonly concolorous, but sometimes has a small rufescent spot at the anterior angle. In the male the thorax is as broad as the elytra, and but little contracted in front; the jaws are rather more prominent, and they have the outer margin recurved and produced anteriorly into a triangular tooth-like process: the clypeus is simple.

Common on the borders of the ditches of salt or brackish water, at Sheppy.

*Heteroceris marginatus*, Fab. Ent. Syst. i. 262.

—————, Panzer, Faun. Germ. xxiii. 12.

—————, Steph. Illustr. ii. 100, 1; Man. 80, 619.

—————, Kiesenw. Germ. Zeitschr. iv. 208, 5,  
pl. 3, fig. 5.

—————, Erichs. Ins. Deutschl. iii. 546, 5.

The size and proportions of this species is much like *H. lævigatus*, but the posterior angles of the thorax are less obtuse, and, indeed, are very nearly right angles, and they are more distinctly margined. The markings on the elytra also furnish distinctions: the basal spot is wanting; the humeral band does not run so far back before it is recurved, and the ascending inner branch is not disunited. The post-median band runs upwards internally to unite with the second discoidal spot; the discoidal spots are simple; the margin of the elytra is narrowly edged with testaceous, but interrupted between the pale bands.

Found on the margins of ponds and ditches in the neighbourhood of London. My specimens are chiefly from Richmond Park.

Eight, out of ten specimens which stand under the name *H. marginatus* in Stephens' Collection, belong to the present species; one of the other specimens is *H. flexuosus*, and the other is *H. lævigatus*.

*Heterocerus fuscus*, Kiesenw. Germ. Zeitschr. iv. 220, 17, pl. 3, fig. 11.

—————, Erichs. Ins. Deutschl. iii. 549, 9.

Extremely like *H. lævigatus*, but much smaller; the thorax relatively rather larger, the punctuation rather stronger; the colouring (including that of the pubescence) darker; the legs and antennæ pitchy. The thorax is often rufescent at the anterior angles; the markings on the elytra like those of *H. lævigatus*.

Length  $1\frac{1}{2}$  lin.

My specimens, and some others which I have seen, are from the Fens of Whittlesea.

I am inclined to believe this may be a diminutive race of *H. lævigatus*.

*Heterocerus sericans*, Kiesenw. Germ. Zeitschr. iv. 212, 9 (1843).

—————, Erichs. Ins. Deutschl. iii. 550, 11.

—————, Wollast. Zoologist, 1852, p. 3622.

————— *pusillus*,\* Steph. Illustr. v. 395 (1832); Man. 81, 623 (1839).

————— *minutus*, (Dej.) Dawson and Clark, Catal. of Brit. Col. p. 11.

A minute species ( $1\frac{1}{2}$  line in length), relatively much narrower than *H. lævigatus*, more linear, and with the thorax larger. The thorax is rather broader than the elytra, and has the sides boldly rounded in the female, and in the male is distinctly broader. The general colour of the insect is pitchy black; the sides of the thorax, and frequently a middle longitudinal mark, rufescent. The markings on the elytra are also rufescent, rather broad, and not well defined; they consist of a patch at the shoulder, an oblong discoidal patch on the basal third of the elytron, a transverse band below the shoulder; a curved band, with the convex side forwards, below the middle of the elytra, and a sub-apical spot; the outer margin of the elytron is also pale, but interrupted immediately behind the pale colouring at the shoulder. The pubescence with which the insect is clothed is short and ash-coloured.

Represented by eight specimens in Mr. Stephens' Collection; they were received from the Rev. F. W. Hope, who discovered the insect in North Wales; my own specimens are also, some of

\* The name *pusillus* was previously applied to a North American species of *Heterocerus* by Say. See Journal of the Acad. of Nat. Sci. of Philadelphia, vol. iii. p. 200 (1823).

them, from the same quarter, having been given me by Mr. Hope. I have also received specimens from North Wales, collected by Charles Darwin, Esq., and am indebted to Mr. Wollaston for a specimen which is labelled as coming from "Ferriby."

I may here remark, that there is a nearly allied species (*H. hispidulus*, Kiesenwetter), which, having a wide range on the Continent, is not unlikely to be found in England. It is a trifle larger than *H. sericans*, and may be readily distinguished by the short (almost scale-like), pale, glistening setæ, which, combined with a fine pubescence, covered the upper surface of the body.

*Heterocerus flexuosus*, Steph. Illustr. ii. 101, 2; Man. 80, 620.

———— *femoralis*, Kiesenw. Germ. Zeitschr. iv. 206, 3, pl. 3, f. 4.

———— ———, Erichs. Ins. Deutschl. iii. 544, 3.

———— ———, Wollaston, in Zoologist, 1852, p. 3622?

This species is usually rather larger than *leevigatus*; rather more elongate; has the thorax broader, more rounded at the sides, and *not margined* at the posterior angles; sometimes both the anterior and posterior angles of the thorax have a rufo-testaceous spot, but very frequently the spots are wanting. The elytra more nearly resemble those of *H. marginatus* in their markings, inasmuch as the discoidal spots are not divided, and the fasciæ are frequently complete, the post-medial fascia joining the second discoidal spot, and the sub-humeral band being (often) recurved and enclosing an oblong dark area at the shoulder; the sub-apical spot often sends down a small branch to join the pale colour which margins the apex of the elytra; the side of the elytron is also pale, but more or less interrupted. There is this important difference, however, between the markings of the present species, and those of *H. marginatus*, namely, the *H. flexuosus* has a basal spot; and, indeed, there is often a transverse band at the base. The ash-coloured pubescence with which the insect is clothed is distinctly longer than in other species here noticed.

I have reason to believe this is a common insect on our coasts. I have taken it at Felixstow in Suffolk, and at Southend. Mr. Squire found it at Deal. A specimen in Mr. Stephens' Collection (which is believed to come from Mr. Haliday) is labelled "*H. sabulosus*, n. sp., Irish Channel sandy coasts." The *H. flexuosus* seems to have been founded by Stephens upon a single specimen, which presents a variation in the markings which is by no means uncommon. The bands and spots on the elytra have run, or



enlarged in such a manner that the pale colour prevails. Its locality is given as "the banks of the Thames, beyond Gravesend." Dr. Power has a fine series of specimens from the same place, including varieties resembling Mr. Stephens' specimen.

*Heterocerus rectus*, Waterh.

———— *fossor*, Kiesenwetter, Germ. Zeitschr. iv. 204, 2, pl. 3, f. 3?

H. oblongus, parallelus, niger, pube pallida cinerea vestitus; thoracis angulis posterioribus immarginatis; clytris angustis; fasciis maculis, basique rufo-testaceis; pedibus piceis.

Long.  $2\frac{1}{3}$  lin.

This species agrees with *H. flexuosus* in not having the thorax margined at the posterior angles; the markings on the elytra, moreover, are essentially the same, excepting that the first discoidal spot is rather more remote from the post-median band; and the bulk of the insect is about the same, but the form is different, being narrower, and more parallel; both thorax and elytra are relatively longer; the head is narrower; the spines of the anterior tibiae are rather stouter and shorter, and the pubescence is shorter. The thorax is rather broader than the elytra, has the sides gently rounded, and is somewhat contracted in front; the hinder part is obliquely truncated on either side, and the posterior angles are obtuse. (In *H. flexuosus* the sides of the thorax are more strongly rounded, and the upper surface is more convex.) Sometimes there is an indistinct rufescent spot at the anterior angle, but usually the thorax is uniformly black. The elytra are elongate, and with the sides parallel: the markings consist of a transverse mark at the base, which is somewhat dilated at the part nearest to the scutellum; three discoidal spots, and two bands; the humeral band is recurved in some specimens so as almost entirely to enclose a small oblong dark area at the shoulder; in others, the inner branch of this band is wanting; the post-medial band often runs inwards and forwards to join the second discoidal spot, but sometimes the spot is free, and the band is almost obliterated. The third discoidal spot often joins the pale edging of the apex of the elytra, the whole outer margin of which is pale. The legs are either pitchy or fuscous; the tarsi testaceous. The anterior tibiae are rather less broad than in *H. flexuosus*.

Ten specimens of this insect examined by me present no sexual distinctions, still I am strongly inclined to believe that the male

would present some peculiarities, were there one among my specimens. Judging from the descriptions, and from a single male specimen of *H. fossor* which I have had an opportunity of examining, the two insects are very closely allied and might possibly be the same; but when specimens of the same sex are compared, I think it will be found that the insect here described will prove distinct—that the true *H. fossor* will differ from my insect in having the thorax less contracted in front, and the elytra rather broader and less truly parallel. The legs moreover in *H. fossor* are paler. If these suspicions prove to be well founded, I propose that the name *H. rectus* be applied to the present species.\*

I have reason to believe my specimens of this insect are from North Wales.

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\* *H. parallelus* differs from my insect in being rather larger, in having the legs, antennæ and sides of the thorax pale; its thorax, moreover, is more rounded at the sides.